

# RT-PCR Products from Mouse and Human Breast Tumor Cells

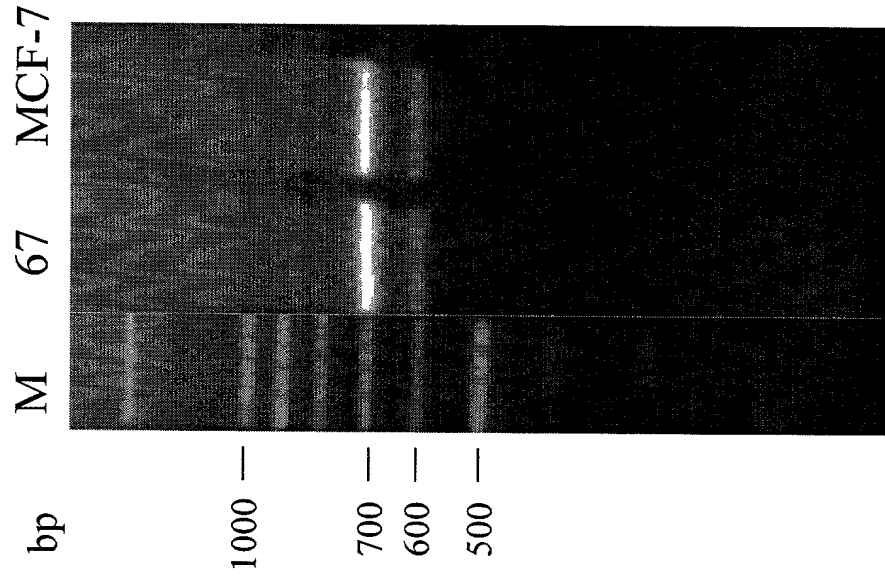


FIG. 1

# Human Sigma-1 $\beta$ Receptor mRNA Sequence (cd Region) GenBank: AF226604

1 ATGCAGTGGCGCGTGGCGCGGTGGCGGTGGCGCGCTGCTCGTGTGCGAGCG 60  
M Q W A V G R W A W A A L L A V A A

61 GTGCTGACCCAGGTGCTGTGGCTCTGGCTGGGTACGACAGCTTCGTCTCCAGCGCGAA 120  
V L T Q V V W L W L G T Q S F V F Q R E

121 GAGATAGCGCAGTTGGCGGCGAGTACGTGGCTGGACACGAGCTGGCCTTCTCTCGT 180  
E I A Q L A R Q Y A G L D H E L A F S R

181 CTGATCGTGGAGCTGGCGGGCTGCACCCAGGCACGTGTCGCCGACGAGAGTGCAG 240  
L I V E L R R L H P G H V L P D E E L Q

241 TGGGTGTTGCGTAATGCGGCTGGCTGGATGGCGCCATGTGCCCTTCTGCACGCCCTCGCTG 300  
W V F V N A G G W M G A M C L L H A S L

301 TCCGAGTATGTGCTGCTTTCGGCACCGCCTTGGGCTCCCGGGCCACTCGGGGAGACG 360  
S E Y V L L F G T A L G S R G H S G E T

361 GTAGTACACGGGCTGTGAGGCAACAGCTGTGAGCTGGGGCCAAACACATGGATGGTG 420  
V V H G P G E A T A V E W G P N T W M V

421 GAGTACGGCGGGGTCAATCCATCCACCCTGGCCTTCGGCTGGCCGACACTGTCTTC 480  
E Y G R G V I P S T L A F A L A D T V F

481 AGCACCAGGACTTCCTCACCCCTTCTATACTTTCGCTCCTATGCTCGGGGCCCTCCGG 540  
S T Q D F L T L F Y T L R S Y A R G L R

541 CTTGAGCTCACACCTACCTCTTTGGCCAGGACCCCTTGA 579  
L E L T T Y L F G Q D P \*

FIG. 2

# Comparison of The Human Sigma-1 and Sigma-1 $\beta$ Receptor Protein Sequences

1	MQWAVGRRWAAALLLAVAAVLTQVVWLWLGTQSFVQREETIAQLARQYA	50
1	<b>MQWAVGRRWAAALLLAVAAVLTQVVWLWLGTQSFVQREETIAQLARQYA</b>	50
51	GLDHELAFSRLIVELRRLLHPGHVLPDEELQWVFVNAGGWMGAMCCLLHASL	100
51	<b>GLDHELAFSRLIVELRRLLHPGHVLPDEELQWVFVNAGGWMGAMCCLLHASL</b>	100
101	SEYVLLFGTALGSRGHSGRYWAEISDTIISGTFHQWREGTTKSEVFYPGE	150
101	<b><u>SEYVLLFGTALGSRGHS (117)</u> [31 AA were deleted] GE</b>	119
151	TVVHGPGEATAVEWGPNTWMVEYGRGVIPSTLAFALADTVFSTQDFLTLE	200
120	<b>TVVHGPGEATAVEWGPNTWMVEYGRGVIPSTLAFALADTVFSTQDFLTLE</b>	169
201	YTLRSYARGRLRLTLTYLFGQDP	223 AA human $\sigma_1$ receptor protein
170	<b>YTLRSYARGRLRLTLTYLFGQDP</b>	<b>192 AA human <math>\sigma_{1\beta}</math> receptor protein</b>

FIG. 3

# Mouse Sigma-1 $\beta$ Receptor mRNA Sequence (cd Region)

GeneBank: AF226605

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1  ATGCCGTGGCGCGGACGGCTGGGCATCGATCACCCTGATTCTGACTATTATCGCA 60
   M P W A A G R R W A W I T L I L T I I A
61  GTGCTGATCCAGCGCGCCTGGTTGTGGCTGGGCACTCAAAACTTCGTCTCTAGAGAA 120
   V L I Q A A W L W L G T Q N F V F S R E
121  GAAATAGCGAGCTTGCTCGACAGTATGGGGCTGGACCATGAGCTTGCTCTCGG 180
   E I A Q L A R Q Y A G L D H E L A F S R
181  CTGATCGTGGAGCTGCGGAGGCTGCACCCAGGCACGTGCTGCCGGATGAGGAGTGCAG 240
   L I V E L R R L H P G H V L P D E E L Q
241  TGGGTATTTGTGAACGGCGCGCTGGATGGGCGCCATGTGTATTCTGCACGCCCTCGCTG 300
   W V F V N A G G W M G A M C I L H A S L
301  TCTGAGTACGTGCTCTTCGGCACCGCCCTGGGCTCCCATGGCCATTCCGGGAGAGACA 360
   S E Y V L L F G T A L G S H G H S G E T
361  GTGTACACGGGCTGGAGAAGCAACGGCTCTGGAGTGGGGACCAACACGTTGGTGTG 420
   V V H G P G E A T A L E W G P N T W M V
421  GAGTACGGCGGGTGTATTCCGTCTACCCCTGTCTTTGCTAGCCGACACCTTCTTC 480
   E Y G R G V I P S T L F F A L A D T F F
481  GGCACCCAGGACTACCTCACAACCTTCTATACCCCTTCGGGCTATGCCGGGCTCCGG 540
   G T Q D Y L T L F Y T L R A Y A R G L R
541  CTTGAGCTTACCACCTACCTCTTTGGCCAAAGACTCCTGA 579
   L E L T T Y L F G Q D S *
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**FIG. 4**

# Comparison of The Mouse Sigma-1 and Sigma-1 $\beta$ Receptor Protein Sequences

1	MPWAAGRRWAWITLLITIIAVLIQAAWLWLTQNFVFSREEIAQLARQYA	50
1	<b>MPWAAGRRWAWITLLITIIAVLIQAAWLWLTQNFVFSREEIAQLARQYA</b>	50
51	GLDHELAFSRLIVELRRLHPGHVLPDEELQWVFVNAGGWMGAMCILLHASL	100
51	<b>GLDHELAFSRLIVELRRLHPGHVLPDEELQWVFVNAGGWMGAMCILLHASL</b>	100
101	SEYVLLFGTALGSHGSHGRYWAEISDTIISGTFHQWKEGTTKSEVFYPGE	150
101	<b><u>SEYVLLFGTALGSHGS</u></b> (117) [31 AA were deleted] <b>GE</b>	119
151	TVVHGPGEATALEWGPNTWMVEYGRGVIPSTLFFALADTFFGTQDYLTIF	200
120	<b>TVVHGPGEATALEWGPNTWMVEYGRGVIPSTLFFALADTFFGTQDYLTIF</b>	169
201	YTLRAYARGRLRLTTLTYLFGQDS* 223 AA	$\sigma_1$ receptor protein
170	<b>YTLRAYARGRLRLTTLTYLFGQDS*</b> 192 AA	<b><math>\sigma_{1\beta}</math> receptor protein</b>

FIG. 5

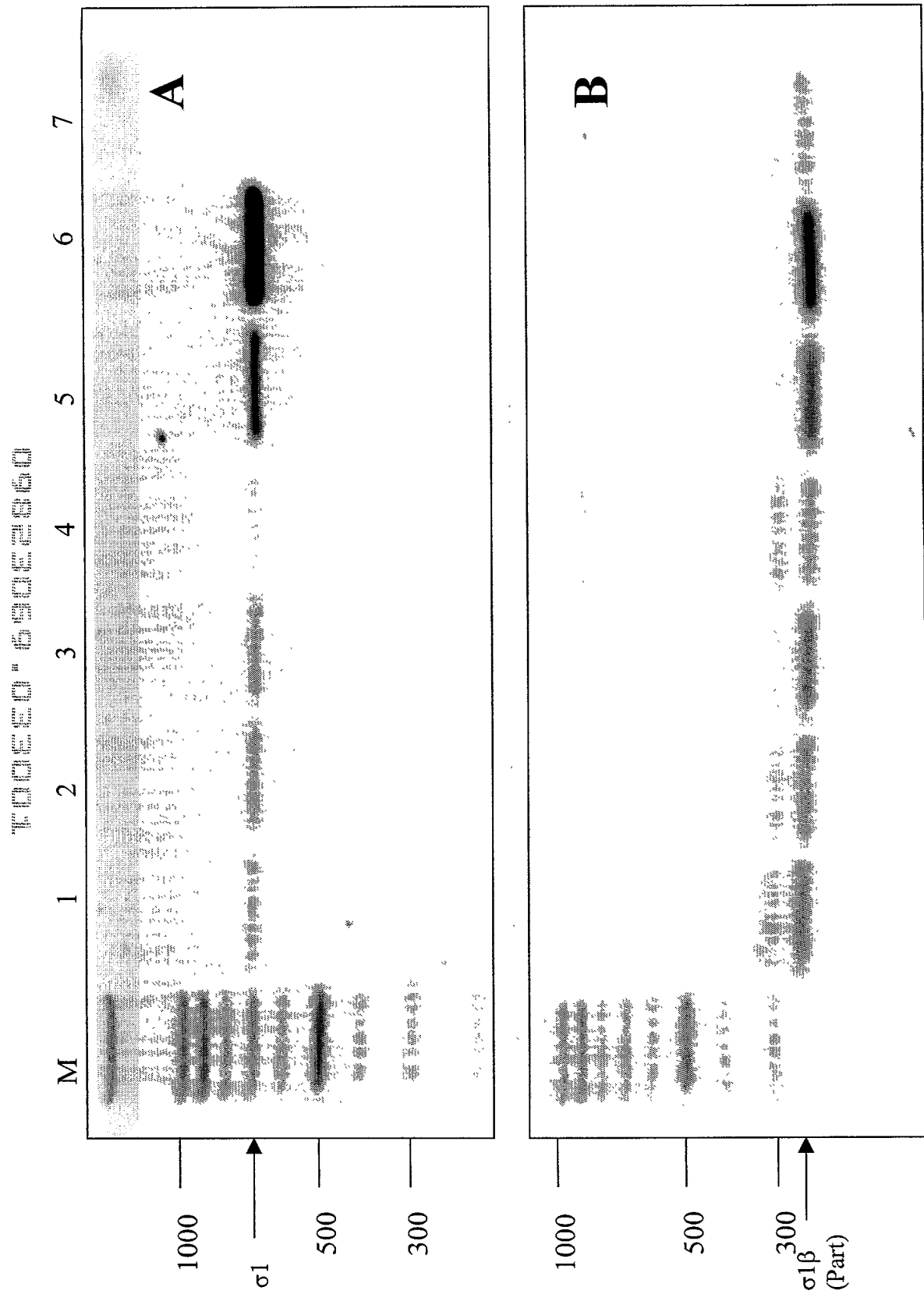


FIG. 6

# Sigma-1 Receptor Gene

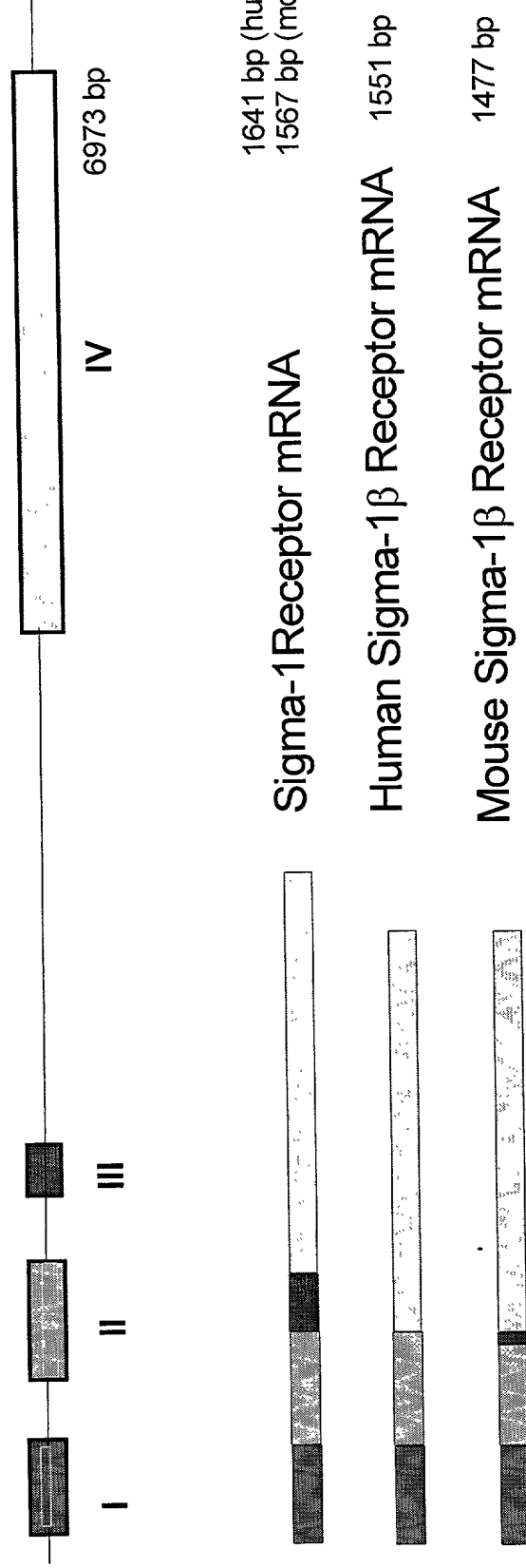


FIG. 7